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**CONFIDENTIAL
FACSIMILE TRANSMITTAL SHEET****DATE SENT:** June 17, 2003**DELIVER TO:**

Name: Examiner Chanh Duy Nguyen
Company: USPTO, GAU 2675
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FROM: Ramraj Soundararajan**SERIAL NO.:** 09/649,608**OUR DOCKET:** ARC9-2000-0027-US1**FAXED**
6/17/03
11:48 a.m. *Jm*

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PLEASE ACKNOWLEDGE & RETURN☒ **DRAFT FOR INTERVIEW PURPOSES ONLY****DOCKET:** ARC9-2000-0027-US1**SERIAL NO.:** 09/649,608**IN RE APPL. OF:** Campbell et al.**TITLE:** Method and System for the Recognition of Reading, Skimming, and Scanning from Eye-Gaze Patterns**PGS OF SPEC:** _____**PGS OF CLAIMS:** _____**PGS OF DRAWINGS:** _____**AGENTS:** Randy W. Lacasse**TOTAL CHARGES:** \$0.00Jaclyn A. SchadeRamraj Soundararajan

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re Application of: Campbell et al.

Serial No.: 09/649,608

Group Art Unit: 2675

Filed: 8/29/2000

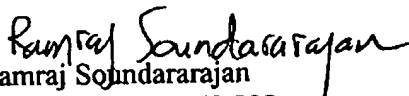
Examiner: Chanh Duy Nguyen

Title: *Method and System for the Recognition of Reading, Skimming, and Scanning from Eye-Gaze Patterns***DRAFT FOR INTERVIEW PURPOSES ONLY**Commissioner of Patents
and Trademarks
Box Non-Fee Amendment
Washington, D.C. 20231

Sir:

We want to thank the Examiner for his efforts in the interview of this morning, June 17, 2003. We have set forth proposed changes to independent claims 1, 12, 23, 24, and 25 (a marked-up copy of which is hereby attached in Appendix A) which may assist in clarification of claim elements. If the Examiner believes that it would be beneficial to discuss technical issues, rejected claims, and prior art with regard to the final rejection of the pending patent application in further detail, another interview can be scheduled at the Examiner's convenience.

Respectfully submitted,


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June 17, 2003

APPENDIX A**Marked-Up Claims**

1. A method for recognizing reading, skimming, and scanning modes from eye-gaze patterns, said method comprising the steps of:
quantizing eye movements of a user viewing heterogeneous content in both X and Y axes;
accumulating a numerical evidence of reading until a predetermined threshold is reached,
said numerical evidence independent of gaze time and factoring both ^{positive} ~~incremental~~ and ^{negative} ~~decremental~~ values; and
detecting reading when said numerical evidence of reading exceeds said threshold.

12. A system for recognizing reading, skimming, and scanning modes from eye-gaze patterns, said system comprising:
an eye-movement quantizer that quantizes eye movements of a user viewing heterogeneous content in both X and Y axes;
a reading-evidence accumulator that accumulates a numerical evidence of reading, said numerical evidence independent of gaze time and factoring both incremental and decremental values;
a threshold-comparator that compares said numerical evidence of reading against a predetermined threshold; and

10 a reading-detector that detects reading when said numerical evidence of reading exceeds
11 said predetermined threshold.

1 23. A system for recognizing reading, skimming, and scanning modes from eye-gaze
2 patterns, said system comprising:
3 means for quantizing eye movements of a user viewing heterogeneous content in both X
4 and Y axes;
5 means for accumulating a numerical evidence of reading, said numerical evidence
6 independent of gaze time and factoring both incremental and decremental values;
7 means for comparing said numerical evidence of reading against a predetermined
8 threshold; and
9 means for detecting reading when said numerical evidence of reading exceeds said
10 predetermined threshold.

1 24. An article of manufacture comprising a computer program product having a machine-
2 readable medium including computer program instructions embodied therein for
3 recognizing reading, skimming, and scanning from eye-gaze patterns with:
4 computer program instructions for quantizing eye movements of a user viewing
5 heterogeneous content in both X and Y axes, said quantizing based on averaging over a
6 predetermined period of time;
7 computer program instructions for accumulating a numerical evidence of reading until a
8 predetermined threshold is reached, said numerical evidence independent of gaze time
9 and factoring both incremental and decremental values;

10 computer program instructions for detecting reading when said numerical evidence of
11 reading exceeds said predetermined threshold; and
12 computer program instructions for switching modes from a scanning mode and a
13 skimming mode to a reading mode when reading is detected.

- 1 25. An article of manufacture comprising a computer program product having a machine-
2 readable medium including computer program instructions embodied therein for utilizing
3 user interest information to adapt a computer to a user's needs with:
4 computer program instructions for recording eye-gaze patterns of said user viewing
5 heterogeneous content;
6 computer program instructions for determining from said recorded patterns whether said
7 user is reading, skimming, and scanning based upon accumulated numerical evidence,
8 said numerical evidence independent of gaze time and factoring both incremental and
9 decremental values;
10 computer program instructions for recording heterogeneous content of interest to said
11 user upon detection of said reading;
12 computer program instructions for finding relevant information from a database using
13 said recorded heterogeneous content of interest; and
14 computer program instructions for adapting said computer to said user's needs using said
15 relevant information.